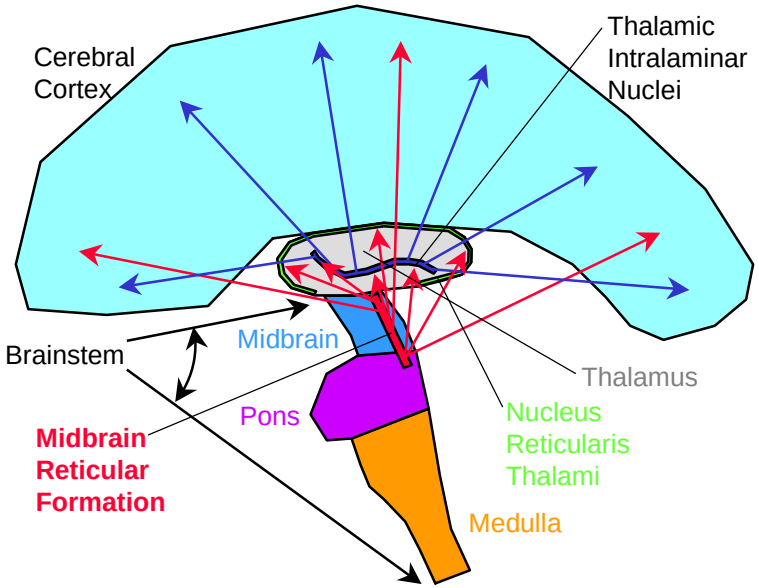
Neuromodem
HNC Software/Robert Hecht-Nielsen



Objective

Demonstration of a system that can learn to accurately recognize the representational codes expressed on a given cortical region of the brain and encode desired machine input to that region so that it will be correctly interpreted by the rest of the brain (given a reliable chronically implantable bioelectronic interface).

Approach

- Gather and enter the test and training data set
- Develop preprocessing modules
- Augment existing neural network software for implementation of *cortronic* architectures.
- Develop hierarchical representation for each type of input stream
- Build associator systems
- Develop image representation and expectation-driven object segmentation systems

Schedule

- Year 1: Hierarchical Representations
  Processing Requirements
  Basic Time Sequence Associator
  Visual Object Invariant Features
- Year 2: Hierarchical Representations II
  Context-Aware Sequence Associator
  Visual Object Variant Features
- Year 3: Full-Scale Time Sequence Associator
  Expectation-Driven Object Segmentation